



(12)

EUROPEAN PATENT APPLICATION

- (88)

Date of publication A3:
16.10.2024 Bulletin 2024/42
- (43)

Date of publication A2:
27.03.2024 Bulletin 2024/13
- (21)

Application number: 24152381.0
- (22)

Date of filing: 25.09.2018
- (51)

International Patent Classification (IPC):
H01L 25/075^(2006.01) H01L 33/56^(2010.01)
H01L 33/50^(2010.01)
- (52)

Cooperative Patent Classification (CPC):
H01L 25/0753; H01L 33/505; H01L 33/507;
H01L 33/56; F21S 43/28131; F21S 43/28135;
H01L 2933/0091

- (84)

Designated Contracting States:
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB
GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO
PL PT RO RS SE SI SK SM TR
- (30)

Priority: 25.09.2017 KR 20170123558
17.08.2018 KR 20180096012
- (62)

Document number(s) of the earlier application(s) in
accordance with Art. 76 EPC:
20198270.9 / 3 787 024
18196434.7 / 3 460 844
- (71)

Applicant: LG Innotek Co., Ltd.
Seoul 07796 (KR)
- (72)

Inventors:
 - HAN, Sa Rum
07796 Seoul (KR)
 - EOM, Dong Il
07796 Seoul (KR)
 - RYU, Young Hun
07796 Seoul (KR)
- (74)

Representative: M. Zardi & Co S.A.
Via G. B. Pioda, 6
6900 Lugano (CH)

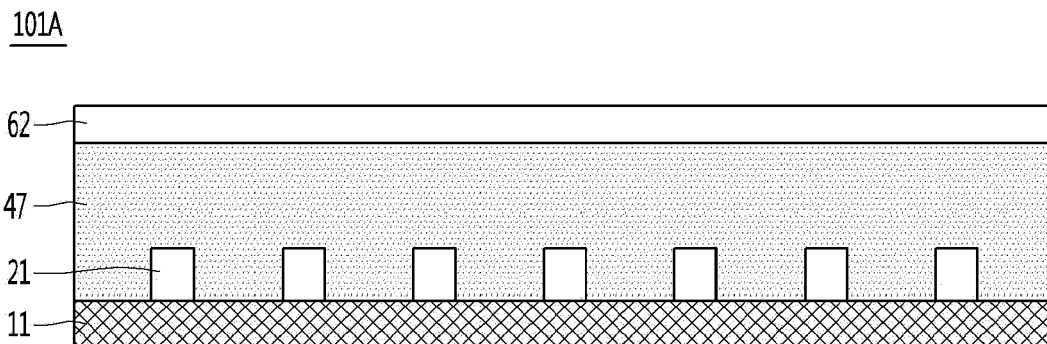
(54)

LIGHTING MODULE

- (57)

A lighting module according to an embodiment of the invention includes: a substrate; a plurality of light emitting devices disposed in N rows (N is an integer of 1 or more) on the substrate; a first resin layer covering the plurality of light emitting devices; a first diffusion layer disposed on the first resin layer and diffusing light emitted
- from the first resin layer; and a second diffusion layer disposed on the first diffusion layer and diffusing light emitted from the first diffusion layer, wherein the first diffusion layer includes a diffusing agent, and the second diffusion layer includes at least one of a phosphor and ink particles.

FIG. 15





EUROPEAN SEARCH REPORT

Application Number

EP 24 15 2381

5

10

15

20

25

30

35

40

45

50

55

2

EPO FORM 1503 03.82 (P04C01)

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	US 8 956 007 B2 (KONDO TAKASHI [JP]; MATSUDA HIROKAZU [JP] ET AL.) 17 February 2015 (2015-02-17)	1-5,7,8, 11-13,15	INV. H01L25/075 H01L33/56
A	* column 5, lines 3-5; figure 3 * * column 12, lines 43-53 * * column 13, lines 30-32 * * column 14, lines 4-6,19-22,32,33 * * column 15, lines 9-13,29-35 * * column 16, lines 62-64 * * column 18, lines 39-46 * * column 19, lines 16,17 * * column 20, line 13 - column 22, line 26 *	9,10	ADD. H01L33/50
X	US 2014/367711 A1 (BIBL ANDREAS [US] ET AL) 18 December 2014 (2014-12-18) * paragraphs [0058], [0059], [0063], [0064], [0065], [0072]; figures 1,2,5 * * paragraphs [0056], [0058], [0069], [0082] *	1,6,13, 14	TECHNICAL FIELDS SEARCHED (IPC) H01L
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 4 September 2024	Examiner Pérennès, Frédéric
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.

EP 24 15 2381

5 This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

04 - 09 - 2024

10	Patent document cited in search report	Publication date	Patent family member(s)	Publication date	
15	US 8956007	B2	17-02-2015	CN 103000792 A	27-03-2013
				EP 2571067 A2	20-03-2013
				JP 2013077811 A	25-04-2013
				KR 20130029348 A	22-03-2013
				TW 201312811 A	16-03-2013
				US 2013063939 A1	14-03-2013

20	US 2014367711	A1	18-12-2014	NONE	

25					
30					
35					
40					
45					
50					
55					

ORM P0459